GOVERNMENT OF INDIA
HEALTH AND FAMILY WELFARE
LOK SABHA

UNSTARRED QUESTION NO:5034
ANSWERED ON:16.12.2016
Use of GM Animals in Biomedical Research
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Will the Minister of HEALTH AND FAMILY WELFARE be pleased to state:

Will the Minister of HEALTH AND FAMILY WELFARE be pleased to state:

(a) whether the use of Genetically Modified (GM) animals in biomedical research is increasing;

(b) if so, the details thereof and the reasons therefor;

(c) whether new gene-editing tools are much easier and cheaper to create such animals with altered characters, if so, the details thereof; and

(d) the steps taken by the Government to discourage scientists from using GM animals in biomedical research?

Answer

ANSWER
THE MINISTER OF STATE IN THE MINISTRY OF HEALTH AND
FAMILY WELFARE
(SMT. ANUPRIYA PATEL)
(a) & (b): As informed by Department of Bio-Technology, Genetically Modified (GM) animals or transgenic animals are routinely used in the laboratory as models in biomedical research. These animals are important tools for research on genetics and metabolism of human diseases for drug discovery through specific responses to therapeutic interventions. Transgenic mice are also used for producing drugs such as therapeutic proteins and antibodies. Most of the antibodies used for treatment of chronic diseases like cancer, arthritis and others skin diseases are produced in transgenic mice. Transgenic farm animals are also used at R&D stage for producing large amount of advanced drugs.

(c): New gene-editing technologies involve simpler form of genetic engineering which employ special enzymes called "nucleases" to insert, delete or modify genes of interest in the living organisms. The technique is still undergoing several developments to ensure more precisions and less side effects.

(d): Transgenic animal research and commercial use requires elaborate and step-by-step food and environmental safety assessment under regulatory frameworks as per the relevant laws in many countries of the world. In India all activities involving genetically engineered animals including gene editing are regulated under Rules 1989 of EPA 1986.